LETTER IV.

CONTAINING

OBSERVATIONS *and* SUPPOSITIONS, *towards forming a new* HYPOTHESIS, *for explaining the ſeveral* Phænomena *of* THUNDER-GUSTS.[*]

SIR,

§. 1. NON-ELECTRIC bodies, that have electric fire thrown into them, will retain it 'till other non-electrics, that have leſs, approach; and then 'tis communicated by a ſnap, and becomes equally divided.

2. Electrical fire loves water, is ſtrongly attracted by it, and they can ſubſiſt together.

3. Air is an electric *per ſe*, and when dry will not conduct the electrical fire; it will neither receive it, nor give

it to other bodies; otherwiſe no body ſurrounded by air could be electrified poſitively and negatively: for ſhould it be attempted poſitively, the air would immediately take away the overplus; or negatively, the air would ſupply what was wanting.

4. Water being electrified, the vapours ariſing from it will be equally electrified; and floating in the air, in the form of clouds, or otherwiſe, will retain that quantity of electrical fire, till they meet with other clouds or bodies not ſo much electrified, and then will communicate as beforementioned.

5. Every particle of matter electrified is repelled by every other particle equally electrified. Thus the ſtream of a fountain, naturally denſe and continual, when electrified, will ſeparate and ſpread in the form of a bruſh, every drop endeavouring to recede from every other drop. But on taking out the electrical fire, they cloſe again.

6. Water being ſtrongly electrified (as well as when heated by common fire) riſes in vapours more copiouſly; the attraction of coheſion among its particles being greatly weakened, by the oppoſite power of repulſion introduced with the electrical fire; and when any particle is by any means diſengaged, 'tis immediately repelled, and ſo flies into the air.

7. Particles happening to be ſituated as *A* and *B*, are more eaſily diſengaged than *C* and *D*, as each is held by contact with three only, whereas *C* and *D* are each in contact with nine. When the ſurface of water has the

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[*] Thunder-guſts are ſudden ſtorms of thunder and lightning, which are frequently of ſhort duration; but ſometimes produce miſchievous effects.

BENJAMIN FRANKLIN *Experiments and Observations on Electricity* LONDON, 1751 THE WARNOCK LIBRARY Octavo